discharge current due to the first charging. An experimental coil was then made up of 1,800 ohms of wire having unparaffined cotton insulation. It was wound on a warm rainy day, and tested immediately, showing the strongest polarization found, driving the spot of light violently off the scale. The coil was then baked in a hot-air oven at 150° C. for an hour, and tested again when cool. No trace of polarization could then be found, though the charging current was increased. The previous observations of course indicated electrolytic polarization as the disturbing cause; and the last showed, that, in the case of that coil, it was electrolysis of water absorbed from the air by the cotton insulation. The experimental coil was then heated, and soaked well with pure paraffine, and drained while hot until it seemed to be as nearly as possible in the same condition as the 40,000 Elliott coil, and tested when cool. No trace of polarization was shown. It was then put aside in the instrument case to see whether it could still absorb water enough to polarize. Ten days later, just after the Buffalo meeting, the coil was tested again and polarized strongly. On heating it again, the polarization entirely disappeared. A drop of hydrant water placed on the coil caused polarization to re-appear in five seconds, and in five minutes the effect was so strong as to drive the needle to its stops.

The degree of error in measurement resulting from polarization was not examined, but Professor Mendenhall's statements show that it may be a considerable quantity.

It is obvious that unparaffined coils are, on this account, unsuited to the best work; also that coils well paraffined (as in the B.A. unit coil) or coils freshly baked and paraffined are free from such error.

The paraffining of ordinary coils, even when as thoroughly done as by the Elliotts, is not a permanent protection, probably because of cracking of the mass of paraffine, allowing vapor to reach the wire and insulation. A test will quickly determine the condition of any particular coil. A box might be made proof against polarization by filling entirely the space about the freshly baked coils with pure paraffine, just warm enough to flow freely. Temperature difficulties could be in part overcome by thermo-junctions, as in standards. Another and on some accounts better plan would be to mount the coils in an impervious box with liquid-tight joints, and filling the interior with a petroleum oil, which may readily be found in market, of such quality as to exhibit no polarization. With such a box, there need be no uncertainty as to the temperature of the coils.

BENJ. F. THOMAS.

Columbus, O., Dec. 27.

Atmospheric lines in the solar spectrum.

The ingenious device recently published by Mr. Conner, for detecting the lines in the solar spectrum due to the earth's atmosphere, recalls a similar plan proposed by the writer some years ago. In a letter dated Feb. 21, 1883, I wrote to Professor Rowland, "I hope that you will try the experiment of which I spoke to you last summer, — forming two images of the sun, and photographing the spectra of the opposite limbs. A glance would serve to distinguish the solar from the telluric lines." An accompanying sketch showed that a double-image prism was to be placed between the slit and a lens forming an image of the sun upon it. This prism was to be moved until the two images were in contact. The east and west limbs were thus brought together, and the slit was placed at right angles to their line of junction. In the photograph, telluric lines should cross the spectrum undeviated, while solar lines would be bent in opposite directions where they crossed the line of separation of the two spectra. The advantages of this method over that of Mr. Conner are, first, its simplicity, as it is easily tried by any one who has a spectroscope giving a sufficient diffusion; secondly, the solar lines, instead of becoming hazy, continue well defined. For these reasons I call attention to the matter, and not to detract from the credit due to the eminent French physicist, who has preceded me both in trying and publishing a solution of this very important problem.

EDWARD C. PICKERING.

Harvard coll. observ., Jan. 1, 1887.

A brilliant meteor.

On Jan. 3, 1887, at 5.15 P.M., I observed a meteor of unusual brilliancy. It started, as nearly as I could make out, from the constellation Ursa Minor, possibly a little higher up, moving with a rapid rush and brilliant light in an easterly direction. As it neared the horizon, its speed apparently diminished, until it disappeared behind some trees. It was visible fully thirty seconds, and, during the last part of its flight, appeared to float slowly downwards. A trail of considerable length was drawn behind, giving it the appearance of a large rocket. Its flight was unattended by any sound.

R. W. WOOD, Jr.

Jamaica Plain, Mass.

What was the rose of Sharon?

I notice in your issue of Dec. 31 an article on the rose of Sharon. Without desiring to enter into the discussion of this subject, I wish to refer those interested to a few words upon this subject by an eminent investigator. Speaking of that part of the pleistocene plain near Jaffa, bordering the Mediterranean Sea, Sir J. W. Dawson, in his recent work on 'Egypt and Syria,' says, "In February we found it gay with the beautiful crimson anemone (A. coronaria), which we were quite willing to accept as the 'rose of Sharon,' while a little yellowish-white iris, of more modest appearance, growing along with it, represented the 'lily-of-the-valley' of Solomon's song." From this would it not be reasonable to infer that this anemone is quite generally recognized as the 'rose of Sharon'?

AMOS W. BUTLER.

Brookville, Ind., Jan. 3, 1887.

Electrical phenomena on a mountain.

In confirmation of the observations of M. F. (*Science*, viii. p. 564) in relation to electrical phenomena on Lone Mountain, near Bozeman, I beg leave to call attention to the fact that more than twelve years ago Mr. Franklin Rhoda, assistant topographer, in his 'Report on the topography of the San Juan country' (*vide* F. V. Hayden's *Report of U.S. geological and geographical survey of the territories for the year* 1874, pp. 456–458, also p. 461), gives a detailed and graphic account of similar electrical manifestations experienced by Mr. A. D. Wilson and